# Claims

[c1]     An address conversion apparatus for connecting a first network to a second network, comprising:

a receiving unit that receives a first SNMP trap from a communication apparatus in said first network;

a converter that changes a predetermined part in said first trap to generate a second SNMP trap; and

a transmitting unit that transmits said second trap generated by said converter to a monitoring apparatus of said communication apparatus in said second network.

[c2]     An address conversion apparatus as claimed in claim 1, wherein said converter changes said predetermined part of an agent address part in said first trap to a value corresponding to an address in said second network to generate said second SNMP trap.

[c3]     An address conversion apparatus as claimed in claim 2, wherein said converter changes said predetermined part of a time stamp part in said first trap to information for identifying said communication apparatus in said first network to generate said second trap.

[c4]     An address conversion apparatus as claimed in claim 2, wherein said converter changes said predetermined part of a port number in said first trap to information for identifying said communication apparatus in said first network to generate said second trap.

[c5]     An address conversion apparatus as claimed in claim 1, wherein said converter changes said predetermined part in said first trap to information for identifying said address conversion apparatus to generate said second SNMP trap.

[c6]     An address conversion apparatus as claimed in claim 5, wherein said converter changes said predetermined part of a time stamp part in said first trap to said information for identifying said address conversion apparatus to generate said second trap.

[c7]        An address conversion apparatus as claimed in claim 5, wherein said converter changes said predetermined part of a port number in said first trap to said information for identifying said address conversion apparatus to generate said second trap.

[c8]        An address conversion apparatus for connecting a first network to a second network, comprising:

a receiving unit that receives a first SNMP trap from a communication apparatus in said first network;

a holding unit that holds said first trap;

a transmitting unit that transmits a second SNMP trap based on said first SNMP trap to a monitoring apparatus of said communication apparatus in said second network; and

a reading unit that reads said first trap from said holding unit in response to a read request of said first trap, corresponding to said second trap, from said monitoring apparatus, and transmits said first trap to said monitoring apparatus.

[c9]        An address conversion apparatus for connecting a first network to a second network, comprising:

an address management unit that manages one or more addresses allocated to said address conversion apparatus;

a receiving unit that receives a first SNMP trap from a communication apparatus in said first network;

a holding unit that holds said first trap;

a converter that changes an agent address part in said first trap to one of said one or more addresses managed by said address management unit to generate a second SNMP trap; and

a transmitting unit that transmits said second trap generated by said converter to a monitoring apparatus in said second network, wherein

said address management unit sets a status of said one of said one or more addresses to generate said second trap to "in use", and

when a status of each of said one or more addresses managed by said address management unit is "in use", said converter does not generate said second trap.

[c10] An address conversion apparatus as claimed in claim 9, wherein said address management unit receives, from said monitoring apparatus, trap processing completion information for setting said "in use" status of said one or more addresses to "no use", and sets said status of said one or more addresses specified by said trap processing completion information to "no use".

[c11] An address conversion apparatus as claimed in claim 9, wherein after said status of said one or more addresses is set to "in use", said address management unit detects a previously specified passage of time and sets said "in use" status of said one or more addresses to "no use".

[c12] An address conversion apparatus as claimed in claim 9, wherein said address management unit obtains an agent address from said first trap received from said communication apparatus in said first network, and records correspondence of said agent address to said one of said one or more addresses to generate said second trap, and wherein said address conversion apparatus further comprises:
an inverter that changes a destination address of a first packet from said monitoring apparatus to said agent address, when said destination address of said first packet from said monitoring apparatus is said one of said one or more addresses managed by said address management unit, to generate a second packet; and
a transfer unit that transfers said second packet to said communication apparatus in said first network.

[c13] A monitoring apparatus receiving an SNMP trap transmitted by a communication apparatus via an address conversion apparatus, wherein said monitoring apparatus includes a specifying unit that specifies said communication apparatus based on an agent address part and a time stamp part in said trap.

[c14] A monitoring apparatus receiving an SNMP trap transmitted by a communication apparatus via an address conversion apparatus, wherein said monitoring apparatus includes a specifying unit that specifies said communication apparatus based on an agent address part and a port number in said trap.

[c1 5]    A monitoring apparatus receiving a generated SNMP trap from an address conversion apparatus, connecting a first network to a second network, which receives an SNMP trap from a communication apparatus in said first network, holds said trap, and transmits said generated trap, said monitoring apparatus comprising:

a receiving unit that receives said generated trap; and

a transmitting unit that transmits a request to said address conversion apparatus to read said trap corresponding to said generated trap from said address conversion apparatus.

[c1 6]    A computer-readable medium storing an address conversion program for a computer connecting a first network to a second network, the program comprising:

a receiving module that directs said computer to receive a first SNMP trap from a communication apparatus in said first network;

a conversion module that directs said computer to change a predetermined part in said first trap to generate a second SNMP trap; and

a transmitting module that directs said computer to transmit said second trap generated by said computer to a monitoring apparatus of said communication apparatus in said second network.

[c1 7]    A computer-readable medium storing a program for a monitoring apparatus that receives an SNMP trap transmitted by a communication apparatus via an address conversion apparatus, wherein said program comprises a specifying module that is operable to make said monitoring apparatus specify said communication apparatus based on an agent address part and a time stamp part in said trap.

[c1 8]    A computer-readable medium storing a program for a monitoring apparatus that receives an SNMP trap transmitted by a communication apparatus via an address conversion apparatus, wherein said program comprises a specifying module that is operable to make said monitoring apparatus specify said communication apparatus based on an agent address part and a port number in said trap.